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Docket No.: 26769-1

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### REMARKS

Claims 1-3-4, 6-10, and 12-37 are currently pending in this application. By virtue of this amendment, claims 2, 5, and 11 have been cancelled, and claims 1, 3-4, 6-8, 12, and 37 have been amended.

### Rejections Under 35 U.S.C. 112, Second Paragraph

Claims 4, 11-12, 24-27 and 33 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite.

The Examiner asserts that claims 4 and 21 disclose that the buffer region sums to substantially full scale but does not specify what parameters are involved to represent as full scale. This concept is clearly set forth in the specification at page 13, line 23 through page 14, line 6. Applicant respectfully submits that one skilled in the art when presented with the description set forth in the specification could readily ascertain what parameters are involved to represent full scale.

The Examiner asserts that claims 11-12, 24-27, and 33 disclose that the amplitude of the beam is modified by acoustic modulation. The Examiner states that Applicant should explicitly specify what would be the phenomenon of modulation of an electromagnetic wave by an acoustic wave.

Applicant has canceled claim 11. Furthermore, the Examiner's attention is directed to page 9, line 20, through page 13, line 6, in which Applicant's have clearly explained how acousto-optic modulators are used to modulate the intensity of the laser beam (or other electromagnetic beam). Applicant respectfully submits that these devices are well-known in the art and that the description of these modulators in the specification is sufficient to demonstrate to one skilled in the art how the modulators are used in the practice of the invention. Applicant respectfully submits that it is not necessary to

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specify what would be the phenomenon of modulation as this is clear from both the claims and the description provided in the specification.

Reconsideration and withdrawal of the rejection of claims 4, 12, 24-27 and 33 as being indefinite under 35 U.S.C. 112, second paragraph is respectfully requested.

### **Rejections Under 35 U.S.C. 103**

Claims 1-37 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Takiguchi et al. in view of Komiya et al.

As to claims 1, 19, 22, and 28, the Examiner asserts that Takiguchi discloses all of the elements of the claimed invention except for the unique stitching method by creating a first buffer region in a first image segment in which the intensity of the pixels in the first buffer region is attenuated, a buffer region in a second image segment in which the intensity of the pixels in the second buffer region is attenuated, and then overlapping the buffer regions of the two image segments. The Examiner then asserts that Komiya relates to an image processing apparatus for forming either images of the parts of an objection or images of an object, which are identical but different in color and for combining the images into a wide high-resolution image of the object. The Examiner determined that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Komiya into Takiguchi in order to accomplish a low-cost color image processing apparatus which can form a high-resolution color image, even if its imaging devices are not positioned with high precision.

Applicant respectfully disagrees that the combination of Takiguchi with Komiya describes all of the elements of the claimed invention. Although the Examiner asserts that Takiguchi describes establishing a first region of a photosensitive coated substrate in which a first image will be printed, Applicant can find no disclosure in Takiguchi that concerns a photosensitive coated substrate. Takiguchi is concerned with an image

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synthesization method, in particular a panoramic image synthesization method when using an electronic camera. The panoramic image synthesization method is accomplished on the computer and there is no teaching or suggestion that this method would be applicable to overlapping images on a photosensitive coated substrate. For this reason, Takiguchi does not describe or suggest all of the elements of Applicant's claimed invention. Furthermore, Komiya does not cure the deficiencies of Takiguchi because Komiya is also directed to processing images from electronic cameras, and does not teach or suggest that the method would be applicable to overlapping images on a photosensitive coated substrate.

The Examiner asserts that Applicant should explicitly specify the boundaries of the first image segment and the first area of the photosensitive coated substrate. Applicant respectfully disagrees. The boundaries of the first image segment and the first area of the photosensitive coated substrate are dictated by the scanning device used to print the image on the substrate. Therefore, Applicant believes that the boundaries of the first image segment, the second image segment and the first and second areas of the photosensitive substrate are readily ascertainable by one skilled in the art.

The Examiner also states that it is not clear why the printing device should be moved to a different location in order to print a second area of a photosensitive coated substrate. This step is clearly set forth in the specification at page 5, lines 8-29 and one skilled in the art would know that it is necessary to move the printing device to a different location in order to print the second area of the photosensitive coated substrate.

As to claim 2, Applicant has canceled this claim and incorporated the subject matter of the claim into claim 1.

As to claims 3 and 20, the Examiner asserts that that the Komiya teaches that the first ramp rate and the second ramp rate are opposite one another. Applicant acknowledges that Komiya may describe varying the intensity of the pixels in the buffer

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region. However, on page 8, lines 15-18 of the specification, Applicant has defined the ramp rate as the rate at which the recording beam intensity will be varied across the buffer region. Applicant respectfully submits that Komiya does describe or suggest a recording beam and therefore cannot teach or suggest that the first ramp rate and the second ramp rate are opposite each other in the manner claimed by Applicant.

As to claims 4 and 21, the Examiner asserts that because Komiya indicates the number of pixels that Komiya teaches that the intensity in the buffer region sums to substantially full scale. Applicant respectfully submits that while Komiya may indicate the number of pixels, Komiya does not indicate the number of pixels in context with printing an image segment onto a photosensitive coated substrate as set forth and claimed by Applicant.

As to claim 5, Applicant has canceled this claim and incorporated the subject matter of the claim into claim 1.

As to claims 6-11, the Examiner asserts that the step is obvious because of the conversion between the intensity and amplitude of a beam. However, neither Takiguchi nor Komiya teach or fairly suggest modulating the intensity of the pixels in the buffer region, thus it cannot follow that these claims would be obvious in view of either of the cited references.

As to claims 11, 12, 24-27, and 33, the Examiner asserts that Komiya describes fixed Pattern Noises. However, the Examiner gives no explanation as to how fixed pattern noises render obvious the referenced claims. The Examiner states that Applicant should explicitly specify what would be the phenomenon of modulation of an electromagnetic wave by an acoustic wave. The Examiner's attention is directed to page 9, line 20, through page 13, line 6, in which Applicant's have clearly explained how acousto-optic modulators are used to modulate the intensity of the laser beam (or other electromagnetic beam). Applicant respectfully submits that these devices are well-known

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in the art and that the description of these modulators in the specification is sufficient to demonstrate to one skilled in the art how the modulators are used in the practice of the invention. Applicant respectfully submits that it is not necessary to specify what would be the phenomenon of modulation as this is clear from both the claims and the description provided in the specification.

As to claim 13, the Examiner asserts that Takiguchi illustrates the step of scanning a photosensitive coated substrate by a rotating polygon, rotating single facet mirror or rotating holographic scanner illuminated by the exposing radiation source. Applicant respectfully disagrees. While Takiguchi describes a synthesization process that includes rotating the image, Takiguchi does not teach or fairly suggest printing the image segments by scanning the substrate with a rotating polygon, rotating single facet mirror or rotating holographic scanner. Takiguchi merely teaches rotating the image during a synthesization step – there is no teaching or suggestion in the reference to use one of the printing methods as set forth in Applicant's claim 13.

As to claims 14-18, the Examiner asserts that Takiguchi's abstract describes that printing of the first and second image segments is achieved through having a photosensitive coated substrate exposed by a fixed pattern array of individually segmented light sources. Applicant has reviewed the abstract of Takiguchi and can find no teaching or suggestion as asserted by the Examiner. The abstract of Takiguchi does not describe exposing a substrate by a fixed pattern array of individually segmented light sources. This is especially true, because as discussed in detail above, Takiguchi does not teach or fairly suggest a photosensitive coated substrate.

As to claim 29, the Examiner directs the applicant's attention to Takiguchi's Figure 45, step S11 and paragraph [0006] of Komiya. However, neither of these passages teaches or suggests that the ramp rate is defined as the percentage of modulation per in-scan pixel. Takiguchi, as further described in column 30, line 66 through column 31, line 7, only discloses that a check is performed by examining the file type in the

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attribute data to determine whether or not the image data is native data. Komiya describes increasing resolution by using more pixels per unit area of the device chip. Modulation, according to the American Heritage Dictionary of the English Language, 4<sup>th</sup> Edition (page 1131), the page of which is attached hereto, defines modulation (in the field of electronics) as "[t]o vary the frequency, amplitude, phase, or other characteristic of (electromagnetic waves)."

Clearly neither Takiguchi nor Komiya teach or suggest defining the ramp rate as a percentage of modulation. Takiguchi only discloses performing a check, i.e., a comparison of the data, while Komiya teaches increasing the number of pixels, not the modulation of the individual pixels.

As to claim 30, the Examiner asserts that Komiya describes computing the intensity value from the ramp rate and the initial value by an integrator. Applicant respectfully disagrees. While Komiya may describe an integrator, Komiya does not teach or fairly suggest computing the intensity value. Komiya is concerned with calculating a location of the pixels, not with calculating the intensity of the pixels, which is what is required by Applicant's claimed invention.

As to claim 31, the Examiner asserts that Komiya teaches that the intensity value and the digital pixel data are converted into analog data by a multiplier. As discussed above, it has not been shown that Komiya teaches or suggests determining an intensity value of the pixels as described and claimed by Applicant. Thus, even though Komiya may convert digital data to analog data, there is no teaching or suggestion that the data being converted by Komiya comprises intensity values of the pixels.

As to claims 32-33, the examiner asserts that Komiya describes a means for modulating intensity that is amplitude modulation. While Applicant does not dispute that Komiya describes a modulator. There is no teaching or suggestion in Komiya that the type of modulator being used is an amplitude modulator.

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As to claims 34, the Examiner asserts that it is obvious because it is a technique to transmit information using a sine wave carrier. However, Examiner has not pointed to any teaching in either Takiguchi or Komiya to support this assertion or describe how it renders Applicant's invention obvious.

As to claim 35, the Examiner asserts that it is obvious because it is a form of modulation in which the frequency of the modulated carrier wave is varied in proportion to the amplitude of the modulating wave. As discussed above, with respect to claim 34, Examiner has not pointed to any teaching in either Takiguchi or Komiya to support this assertion or describe how it renders Applicant's invention obvious.

As to claim 36, the Examiners attention is directed to the arguments presented for claims 34 and 35.

As to claim 37, as discussed in detail above, neither Takiguchi nor Komiya describe or suggest a photosensitive coated substrate. Therefore, neither Takiguchi nor Komiya describe or suggest a printing plate or drum in the manner described and claimed by Applicant.

For all of these reasons, it is believed that 1, 3-4, 6-10, and 12-37 are patentable over the teaching of Takiguchi and Komiya. Reconsideration and withdrawal of the rejection of claims 1, 3-4, 6-10, and 12-37 as being unpatentable over Takiguchi in view of Komiya is respectfully requested.

#### Conclusion

For all of the foregoing reasons, it is believed that all of claims 1, 3-4, 6-10, and 12-37 are now in condition for allowance. Such action is earnestly sought. If the Examiner perceives of any reason why such action should not be taken he is requested to


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contact the undersigned for a telephone interview prior to issuance of the next office action.

Respectfully Submitted,

  
Jennifer Calcaigi, Reg. No. 50,207  
Carmody & Torrance, LLP  
50 Leavenworth Street  
Waterbury, CT 06721-1110  
(203) 575-2648

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